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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,132	10/14/2005	Raymond Hesline	HESL0101PUSA	1661
22045	7590	08/15/2006	EXAMINER	
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			CHAPEL, DEREK S	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

✓ # 117

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/553,132	HESLINE, RAYMOND	
	<b>Examiner</b>	<b>Art Unit</b>	
	Derek S. Chapel	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/31/06 &amp; 6/15/06</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Status Of Claims***

1. This Office Action is in response to a preliminary amendment filed on 10/14/2005 in which claims 1, 3 and 5-12 were amended and claims 2 and 4 were canceled. Claims 1, 3 and 5-12 are pending.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy was filed on 10/14/2005.

### ***Drawings***

3. The drawings were received on 10/14/2005 are accepted.

### ***Claim Objections***

4. Regarding claims 1 and 3, the phrase "such as" renders the claims potentially problematic because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
5. Claims 7 and 8 recite the limitation "optical device" in the first line. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 9 recites the limitation "optical isolator" in the first line. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 10 recites the limitation "optical attenuator" in the first line. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 11 recites the limitation "optical circulator" in the first line. There is insufficient antecedent basis for this limitation in the claim.
9. Claim 12 recites the limitation "optical switch" in the first line. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 3 and 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al., U.S. Patent Number 7,050,671 (hereafter Zhang).
12. As to claim 1, Zhang teaches a combination of birefringent prisms with parallel optic axes capable of dividing an input beam into polarized beams and combining polarized beams into an output beam (See Fig. 10, Elements 911 and 912 and Col. 19, Lines 27-67, Col. 20, Lines 1-6 and Col. 21, Lines 1-34). It is noted by the examiner that the birefringent crystals of Zhang are taken to have parallel optic axes similar to the

applicant's in that the input beam(s) is either split or combined and not just retarded like a half or quarter-waveplate.

13. As to claim 3, Zhang teaches a combination of birefringent prisms with parallel optic axes capable of dividing an input beam into parallel polarized beams and combining parallel polarized beams into an output beam (See Fig. 10, Elements 911 and 912 and Col. 19, Lines 27-67, Col. 20, Lines 1-6 and Col. 21, Lines 1-34). See examiner's note in section 12 of this office action.

14. As to claim 5, Zhang teaches the combination of claim 1, wherein a second combination of birefringent prisms with parallel optic axes for combining parallel polarized beams into an output beam (See Fig. 10, Elements 920A and 920D), and a polarization changer disposed between said first combination of birefringent prisms and said second combination of birefringent prisms (See the half-waveplates and Faraday rotators that are part of elements 911, 912 and 920A-D of Figure 10).

15. As to claim 6, Zhang teaches the combination of claim 3, wherein a second combination of birefringent prisms with parallel optic axes for combining parallel polarized beams into an output beam (See Fig. 10, Elements 920A and 920D), a polarization changer disposed between said first combination of birefringent prisms and said second combination of birefringent prisms (See the half-waveplates and Faraday rotators that are part of elements 911, 912 and 920A-D of Figure 10), and a third combination of birefringent prisms (See Fig. 10, Elements 920B and 920C) with parallel optic axes disposed between said polarization changer and said second combination of birefringent prisms (See Fig. 10).

16. As to claim 7, Zhang teaches the combination of claim 1, wherein prisms of at least one combination of birefringent prisms are arranged about at least one reflector or refractor (See the etalons and polarizing beam splitters (930 and 931) in Figure 10).

17. As to claim 8, Zhang teaches the combination of claim 1, wherein prisms of at least one combination of birefringent prisms are arranged about a polarization changer (See the polarizing beam splitters (930 and 931) and the waveplates and Faraday rotators of Figure 10).

18. As to claims 9 and 11, Zhang teaches the combination of claim 5, wherein at least one polarization changer is a nonreciprocal polarization changer (See the Faraday rotators in Figure 10).

19. As to claims 10 and 12, Zhang teaches the combination of claim 5, wherein at least one polarization changer is a reciprocal polarization changer (See the waveplates in Figure 10).


### ***Conclusion***

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek S. Chapel whose telephone number is 571-272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DSC  
6/28/2006



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